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ABSTRACT

A study was conducted to test the validity of a media exposure model that posits that editorial tone, communication potential, and utility determine the linkage between an individual's medium assessments and choices. A personal interview readership survey of Nigerian elites who read two high quality magazines distributed by the United States International Communication Agency provided the data. "Topic," a general interest magazine circulated throughout Africa, was read by 242 of the primarily older, educated, male elites, while "Interlink," a magazine that focuses on United States-Nigerian relations and circulates only in Nigeria, was read by 237 similar subjects. Computer analysis of the data indicated that the model provided an acceptable fit for the data of both magazines; however, effects for the three dimensions were sometimes negative, although only positive effects had been predicted. The fact that "Topic" faces direct competition from other magazines may explain some of these anomalies. Results imply that future research needs to differentiate explicitly even somewhat similar magazines, and should also take into account the importance of situational factors in constraining readers' predispositions. Still, the model does provide a general framework for the analysis of magazine exposure and appraisal. (JL)

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J. David Johnson

A TEST OF A MODEL OF MEDIA EXPOSURE AND APPRAISAL ON TWO MAGAZINES IN NIGERIA

Ever since George Gallup (1930) first examined reader interests the study of media exposure and appraisal has been a topic of continuing interest within the field of communication. Studies to date have concentrated primarily on who reads and what is read. The question of why people expose themselves to a particular medium has not been adequately explored, however. This study exhaustively examines the why question by testing a causal model of media exposure and appraisal with readership surveys of two magazines distributed in Nigeria by the U.S. Information Agency.

Traditionally, readership has been examined in three different ways. Demographic research, also known as segmentation (Stamm, Jackson, & Bowen, 1978) or structural analysis (Burgoon & Burgoon, 1980), has focused on the question of who exposes themselves to a particular medium. For example, in examining newspaper exposure Burgoon and Burgoon (1980) found age, income, education, race, marital status, and residence ownership all to be related to newspaper use. Research on magazine demographics, even though less exhaustive, has typically found that their readers have higher socioeconomic status (Urban, 1980), education, and income (King & Summers, 1980).

Demographic research can lead to useful descriptions of media exposure, particularly for evaluation purposes, but it has limitations. Demographic research can only suggest explanations for media exposure; to understand its root causes much more direct linkages must be made between explanatory variables related to both characteristics of the medium and of individuals

(King & Summers, 1971; McCombs, 1972; Stamm et al., 1978). While practising communicators cannot change demographics, they can change those characteristics of the media which individuals react to (Burgoon & Burgoon, 1979; Lehmann, 1971).

A somewhat more sophisticated version of the who question is found in psychographic approaches. Research in this area has attempted to relate general psychological traits to media usage. These traits have been found to operate independently of demographics (King & Summers, 1971; Urban, 1980), and are thought to be more important, especially in an explanatory and predictive sense (Urban, 1980). Psychographic traits that have been found to relate to magazine exposure include: Jung's intuitive type (Anast, 1966); need for cognition (Buss, 1967); nonrisk taking, nonleadership, attitudes toward change (King & Summers, 1971), propensity to communicate, self image, inner direction, novelty seeking, and innovativeness (Urban, 1980). While these traits are correlated with exposure, they often appear to have been selected in an ad hoc fashion; with at best a tenuous linkage between them and exposure to a particular medium.

The model proposed here follows a third approach which directly links characteristics of the medium and individuals in an attempt to account for the major causal factors determining the overall appraisal of a particular magazine and exposure to it. It posits that three general dimensions determine the linkage between an individual's medium assessments and choices: editorial tone, communication potential, and utility. The first two dimensions primarily relate to message content attributes and the utility dimension represents a judgement of how these attributes

serve individual needs (Atkin, 1973). Thus this research relates attributes of the medium to the functions they serve for the reader, a focus shared by other recent programmatic research in this area (Burgoon & Burgoon, 1979, 1980).

Editorial tone reflects a reader's perception of the overall credibility and intensions of a medium. If an individual perceives that a medium has motives other than the mere provision of information, this will weigh heavily in their evaluation and exposure decisions. Depending on their own orientations and the availability of alternatives, individuals may choose not to select a medium, or where there is no viable choice, not to value it highly. In a comprehensive examination of newspapers in the United States Burgoon and Burgoon (1979) have found this dimension, particularly as it relates to fairmindedness, to be the most critical factor in determining overall satisfaction with a medium. Another aspect of editorial tone is the perceived accuracy of information, regardless of motives. Burgoon and Burgoon (1979) have found that an editorial product index which included accuracy, was related to satisfaction and in a companion study it also related in some instances to media exposure (Burgoon & Burgoon, 1980). For magazines of the type examined here, which are extensions of the U.S. government designed to impart its views to elites in foreign countries this dimension is critical.

Communication potential refers to an individual's perception of the manner in which information is presented. This dimension relates to issues of style and comprehension. For example, is a magazine clear, stimulating, and attractive? Burgoon and Burgoon (1980) have found for newspapers that indicants like quality of visuals and organization, contained in an

editorial production index, related to exposure in some communities. They also found that inability to comprehend a medium was related to nonreadership. In a companion study their results also indicated that this index was a very important contributor to satisfaction with a newspaper (Burgoon & Burgoon, 1979). Thus the model developed here predicts that the higher the evaluation of the communication potential of a magazine, the higher will be both an individual's exposure and appraisal of it.

The preceding dimensions involve a direct evaluation by an individual of a particular medium, the final dimension, utility, relates the characteristics of the medium directly to the needs of the individual. For example, is the information contained in the medium important for the individual's purposes, relevant, and topical? Atkin (1973) has argued that mass media exposure will result from a combination of such needs of the receiver and the attributes of a message reflected in the first two dimensions.[1] Indeed, perceived utility of information has been found to be related to newspaper readership (Wang, 1977) and a satisfaction index which included a current information measure was found to have the strongest relationship with newspaper readership in a variety of communities (Burgoon & Burgoon, 1980). For the print media it has been argued that indicants of this dimension such as interest, usefulness, and importance for achieving one's goals are interrelated and they have been found to be related to readership (Carlson, 1960).

In summary, based on existing literature and empirical findings, the model presented in Figure 1 posits direct positive relationships between editorial tone (ξ_1), communication potential (ξ_2), utility (ξ_3) and the endogenous latent variables of exposure (η_1) and appraisal (η_2). The

model contains two other noteworthy features. First, it contains a causal path, $-\alpha_{21}$, from appraisal to exposure. Thus it is expected that there will be a direct, positive relationship between a respondent's summary evaluation of a medium and the extent of exposure. Indeed, a satisfaction index that contained some elements of appraisal has been found to be consistently related to newspaper readership (Burgoon & Burgoon, 1980).[2] Second, the model predicts a positive association between all of the exogenous variables. For example, it specifies a relationship between the incomprehensibility of a medium, reflected in communication potential, and accuracy. If an article is subject to multiple interpretations, then its accuracy is unverifiable. In sum, the completely specified theoretical model attempts to move beyond the demographic and psychographic approaches that have characterized research in this area. It seeks to develop a direct linkage between individual's assessments of specific characteristics of a medium, and their summary appraisal of the exposure to it.

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Figure 1 about here

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METHODS

Background and Sample

The data for this analysis are drawn from a personal interview readership survey of elites conducted by a commercial contracting firm in Nigeria. Split halves of the sample were asked about Topic (N = 242) or Interlink (N = 237) which are distributed in Nigeria by the U.S. International

Communication Agency. Both magazines are printed on high quality paper and feature reprinted articles from leading U.S. publications, commissioned articles by major writers, and photographic essays. Topic is a general interest magazine circulated throughout Africa and Interlink is circulated exclusively in Nigeria and focuses on U. S. - Nigerian relations.

The sample was randomly drawn exclusively from individuals on the mailing list of the magazine in Nigeria. Readers of these magazines are primarily older, educated male elites drawn from the following occupational groups: media, academic, government, political, defense, business, and professional.

Statistical Tests

LISREL (LInear Structure RELationships), a general computer program for estimating structural equation systems involving multiple indicators of latent variables, will be used to test the model of exposure and appraisal developed in the previous section.[3] It has the following advantages over conventional multiple regression when used to test models of the sort presented here: one, it simultaneously estimates all of the parameters in a model (Jöreskog, 1970); two, it is specifically designed for the analysis of causal relationships (Goldberger, 1973); and three, it permits the simultaneous specification and estimation of theoretical and measurement relations (Fink, 1980).

Perhaps the most useful feature of LISREL for the analysis proposed here is that it provides a test for the overall goodness of fit of a model to the data. The probability level associated with this χ^2 test "is defined as the probability of getting a χ^2 value larger than that actually obtained given that the hypothesized model is true" (Jöreskog & van Thillo, 1972, p. 32).

For this test probability levels approaching 1.0 are indicants of increasingly better fits of a model to the data. However, Jöreskog (1974) has indicated that this test should be interpreted cautiously, since for increasingly larger sample sizes almost any hypothesized model becomes untenable. A less problematic test is the χ^2 to degrees of freedom ratio (Maruyama & McGarvey, 1980; Wheaton, Muthen, Alwin, & Summer, 1977). In this test values less than 5.00 are indicants of increasingly better fits of the model to the data (Wheaton, et al., 1977).

Observed Indicants

Although administered separately both questionnaires used identical question wordings. Exposure (n_1) had two indicants. One resulted from a computation of article readership (y_2) in the most recent issue. The other exposure indicant (y_1) had the following question wording: About how often do you read Topic: four out of every four issues, three out of four issues, two out of four, one out of four, or less than one out of four?

The remaining indicants were contained in a battery of 11 point bipolar adjective type rating scales. As a convention only the positive pole of the scale will be used in the text (for complete wording see Tables 2 and 3). This battery of questions was introduced by the following wording:

> These next questions deal with your opinions of the magazines you read. Please look at these cards. Note that they show a number of scales indicated at each end with descriptive words or phrases. Please rate each magazine I mention on these scales.

For example, if you feel the magazine is always accurate rate it '10'. If you feel it is neither always accurate or always inaccurate choose one of the middle numbers, i.e. 1 through 9 that best describes your opinion. We will do this for each set of words or phrases.

This battery of questions was only asked of respondents who reported that they read the magazines at least on occassion.

The following bipolar scales served as observed indicants for the editorial tone latent variable (ξ_1): accurate (x_1), impartial (x_2), well-intentioned (x_3), authoritative (x_4), and credible (x_{10}). The visually attractive (x_5) and thought provoking (x_6) observed indicants were used for communication potential (ξ_2). The indicants for utility (ξ_3) were: timely (x_7), relevant to my interest (x_8) and important to me (x_9). The indicant for appraisal (η_2) was best magazine of its kind (y_3).

RESULTS

Results for Interlink

The model provided an acceptable fit to the data for Interlink in Nigeria (χ^2 = 171.618, 56 d.f.). While the probability level was low ($p < .001$) the χ^2 to degrees of freedom ratio of 3.064, was acceptable for tests of this sort. In addition, the patterns of residual correlations indicated no systematic flaws associated with unestimated parameters in the model.

Figure 1 contains the results for the theoretical model. All of the γ paths are important contributors to the model, only the $-\alpha_{21}$ path verges on the criterion of less than .05 for trimming a path from a causal model (Land, 1969). The γ paths between the exogenous true variables

and endogenous true variables ranged from γ_{21}, .183, to γ_{22}, .622, for appraisal (η_2) and from γ_{13} = .452 to γ_{12} = -1.425 for exposure (η_1).[4] There was a high degree of association between the exogenous variables ranging from $\bar{\Phi}_{32}$ = .418 to $\bar{\Phi}_{21}$ = .534. The zeta variances of ζ_1 = .296 and ζ_2 = .418, reveal that a substantial proportion of their respective dependent variables were determined by parameters in the model.

Table 1 presents the results for the tests of the measurement model for Interlink. All of the observed indicants, accept λ_{y2} , load heavily on their respective latent variables. The measurement errors for the x indicants were generally quite acceptable for models of this sort, ranging from .203 for $\theta_{\delta 9}$ the important to me indicant to .583 for $\theta_{\delta 7}$the timely indicant of utility. The measurement errors for the y's were high, especially $\theta_{\varepsilon 2}$ with a value of .950. These results indicate a consistent problem with the article readership indicant, one that is easily detectable in the low intercorrelations of this indicant with other observed indicants and its elevated variance (see Table 2).

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Table 1 & 2 about here

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Results for Topic

The model provides a quite acceptable fit to the data for Topic (χ^2 = 113.016, 56 d.f.). While the probability level was low ($p < .001$), the ratio of 2.018 was quite acceptable for this sort of test. As with Interlink the patterns of residuals indicated no systematic flaws associated with any particular unestimated parameters.

Figure 2 reports the results for the theoretical model. All of the paths have important effects on their respective endogenous variables: ranging from -.517 for γ_{11} to .646 for γ_{12} for exposure and from -.465 for γ_{23} to .623 for γ_{21} for appraisal. Again the $-\alpha_{21}$ (-.060) path is close to the criterion level where it might be trimmed from the model. There is a more moderate association among the exogenous variables ($\overline{\Phi}_{32}$ = .311 to $\overline{\Phi}_{21}$ = .394). The zeta variances indicate that a substantial proportion of the zeta variance is unexplained by the variables specified in the model (ζ_1 = .941, ζ_2 = .630).

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Figure 2 about here

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The results for the measurement model for Topic are contained in Table 1. As for Interlink all of the scale factors are markedly related to their respective latent variables accept λ_{y2} , .162. The measurement error variances for the x indicants, although nearly uniformly higher than for Interlink, still fall in an acceptable range (from .254 for the relevant to me indicant, $\theta_{\delta 8}$, to .711 for timely indicant, $\theta_{\delta 7}$, of utility.) The y indicants show some volatility, particularly article readership, $\theta_{\varepsilon 2}$ = .974. As Table 3 reveals this may be partially attributable to its very high variance and low intercorrelation with the other observed indicants.

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Table 3 about here

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DISCUSSION

In general, the results demonstrate that editorial tone, communication potential, and utility have substantial effects on the endogenous variables

of exposure and appraisal. However, their effects are not always positive, as was predicted, suggesting that a contingency approach based on specific attributes of differing magazines and situational factors needs to be developed in future modeling.

Many situational factors which effect exposure have been identified in previous research (e.g. available time, cost). For the magazines examined here two situational factors appear to be particularly important. First, the nature of competing print media probably affected results, as it has in other studies (Burgoon & Burgoon, 1980; Buss, 1967; Urban, 1980). The nature of the alternative, competing sources is slightly different for these two magazines. Topic is faced with a number of directly competing, high quality regional African magazines, such as Drum. Interlink has less direct magazine competition, but more indirect competition from national newspapers.

Another situational factor which probably affected results is accessibility (Atkin, 1973; Buss, 1967; Carlson, 1960). Throughout the third world distribution of magazines of this sort is problematic. This is particularly true in Nigeria where for any issue of these magazines up to one-half of the respondents might not receive them.

The impact of the exogenous variables on appraisal are quite supportive of the arguments presented earlier. As predicted for both editorial tone and communication potential their effects were both substantial and positive for both magazines. However, utility had a moderately positive relationship with appraisal for Interlink, but a substantially negative one for Topic. In a situation, such as the one that faces Topic, where there are a number of directly competing magazines, utility may lead to higher standards being

applied to it, which results in a lowered appraisal.

The results for the paths related to exposure were mixed. Communication potential was strongly negatively related to exposure for Interlink and strongly positively related for Topic. Two explanations could explain these conflicting results. First, for issues which strike close to home readers may want more somber treatment and less fluff than exists in this type of pictorial magazine which is closely modeled after Life. A somewhat different explanation lies in the distribution problems encountered by these magazines, especially Interlink. The very visual attractiveness of this magazine may account for the distribution losses which impede readership.

The paths for editorial tone and utility associated with exposure evidenced a similar conflicting pattern for both magazines, with positive relationships for Interlink and negative ones for Topic. These findings may be attributable to their different competitive situations, Interlink has no real direct competitors and hence positive evaluations can lead directly to exposure. However, respondents can rate Topic highly on editorial tone and utility, but the presence of similar readily available alternatives, which are not distributed by the U.S. government, may constrain their exposure. This was especially true during the time period of the survey, when the level of anti-American feeling in Nigeria was running high.

The results indicate that it may be desirable to trim the path from appraisal to exposure from the model because of its consistently low values. It is somewhat disconcerting that an overall summary appraisal of a magazine is not clearly related to exposure. The structural features of the model may partially explain this, since the same dimensions that are posited to determine appraisal also directly determine exposure. However, given the

zeta variances for appraisal, it would still be expected that there would be some explanatory force, not attributable to the individual dimensions, for a summary appraisal. This result does point to the difficulty of translating predispositions into actual behaviors, since predispositions typically are constrained by situational factors such as those discussed here.

The lambdas and the measurement error variances for the observed indicants were generally acceptable for a model of this sort. However, there were substantial problems with the y indicants of readership. The article readership measure did not have an acceptable scale factor and it had totally unacceptable measurement error. These two indicants of readership in essence measure different aspects of the phenomenon. y_1 measures a general predisposition to read. The article readership indicant, y_2, measures actual readership and is tied to specific events that may be affected by situational constraints. Readership surveys have typically found a low relationship between these differing indicants (Langschmidt & Brown, 1979). An alternative model was tested without this indicant, however, these tests did not improve the overall goodness of fit of the model to the data.[5]

While the exogenous variables separately have substantial effects on the endogenous ones, the results for Topic indicate that there is still a substantial proportion of the variance in both variables unaccounted for. To a certain extent this finding parallels those of other studies in this area (e.g. Burgoon & Burgoon, 1979, 1980) and may be due to the differential situational effects on Topic. On the other hand, the zeta variances for Interlink are quite good, especially for exposure, indicating that the

parameters specified in the model are the primary determinants of exposure and appraisal.

In summary, the zeta variances and other results point to the contingent nature of magazine readership, suggesting that future research needs to differentiate explicitly even somewhat similar magazines. The results also suggest that appraisal is not related to exposure, again suggesting the importance of situational factors in constraining reader's predispositions. In spite of these difficulties, the overall goodness of fit of the model, and the low zeta variances found for Interlink, suggest that the model presented here, provides a general framework for the analysis of magazine exposure and appraisal.

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NOTES

1. However, both his approach to the utility of information and the uses and gratifications approach, which relates to this issue (see Katz, Blumler, and Gurevitch, 1974), conceptualize these issues at a level of both specificity and generality that are beyond the scope of the current study. Here the exclusive concern is the relationship between judgments of an individual of a particular medium and their relationships with overall appraisal and exposure.

2. Even though others have suggested that there is a reciprocal relationship between exposure and appraisal (see Burgoon and Burgoon, 1979), this relationship is not specified in the present model. The survey methodology used here assumes respondents have some knowledge of a medium, resulting from prior exposure, before they can properly evaluate it. Thus the battery of questions related to evaluations was only asked of those who reported at least prior occasional readership.

3. Because of space limitations a complete description of LISREL cannot be provided here. For detailed descriptions of the program, and its associated terminology, the interested reader can consult Jöreskog and van Thillo (1972) or Stein (1976).

4. Parameters greater than 1 can be indicative of instability in a model (see Fink and Mabee, 1978). In this instance they may be partially reflective of only having two observed indicants for these latent variables, one of which, article readership, was extremely volatile and the situational problem of high levels of distribution losses of the magazine in the period covered by the survey.

5. The results for the models without the article readership indicant were: Interlink, χ^2= 166.939, 46 d.f., and Topic, χ^2 = 102.026, 46 d.f. In addition to not resulting in a better goodness of fit, these tests did not substantially change the estimates of individual parameters.

TABLE 1

Maximum Likelihood Results for Measurement Models for Interlink and Topic

Parameter	Interlink	Topic	Parameter	Interlink	Topic
λ_{y1}	1.000[a]	1.000	$\theta_{\varepsilon 1}$	.570	.000
λ_{y2}	.342	.162	$\theta_{\varepsilon 2}$	.950	.974
λ_{y3}	1.000	1.000	$\theta^{b}_{\varepsilon 3}$	.000	.000
λ_{x1}	1.000	1.000	$\theta_{\delta 1}$	.316	.461
λ_{x2}	.887	.926	$\theta_{\delta 2}$	.462	.538
λ_{x3}	.926	.997	$\theta_{\delta 3}$	.414	.454
λ_{x4}	.909	.847	$\theta_{\delta 4}$	.357	.613
λ_{x5}	1.000	1.000	$\theta_{\delta 5}$	.504	.601
λ_{x6}	1.018	1.048	$\theta_{\delta 6}$	.486	.562
λ_{x7}	1.000	1.000	$\theta_{\delta 7}$	.583	.711
λ_{x8}	1.331	1.607	$\theta_{\delta 8}$	.261	.254
λ_{x9}	1.382	1.504	$\theta_{\delta 9}$	.203	.346
λ_{x10}	.995	1.091	$\theta_{\delta 10}$	.323	.358
$\bar{\Phi}_{11}$	.684	.539	$\bar{\Phi}_{33}$	.417	.289
$\bar{\Phi}_{22}$	.496	.399			

a. For identification purposes the λ_{y3}, λ_{x1}, λ_{x5}, and λ_{x7} parameters were fixed at 1.000 (see Joreskog and van Thillo, 1972).

b. The measurement error variance for y_3 was fixed at 0.000 since it was the sole indicator of η_2. This results in the measurement error being incorporated in the zeta variance (ζ_2) estimate of this latent variable.

TABLE 2

Pearson correlations, means and standard deviations for Interlink

Observed indicant	y_1	y_2	y_3	x_1	x_2	x_3	x_4	x_5	x_6	x_7	x_8	x_9	x_{10}
y_1 Issue readership	1.00												
y_2 Article readership	.147*	1.000											
y_3 Best magazine of its kind - worst magazine of its kind	-.247*	-.098	1.000										
x_1 Accurate-inaccurate	-.156*	-.079	.564*	1.000									
x_2 Impartial-prejudiced	-.310*	-.042	.534*	.596*	1.000								
x_3 Well-intentioned - questionable intentions	-.263*	-.036	.548*	.647*	.656*	1.000							
x_4 Authoritative - not authoritative	-.127*	-.077	.574*	.713*	.563*	.566*	1.000						
x_5 Visually attractive - visually unattractive	-.207*	-.112	.506*	.559*	.451*	.483*	.477*	1.000					
x_6 Thought provoking - bland	-.250*	-.037	.572*	.471*	.504*	.508*	.505*	.505*	1.000				
x_7 Timely-old, dated	-.209*	-.108	.545*	.635*	.534*	.553*	.578*	.507*	.470*	1.000			
x_8 Relevant to my interest - irrelevant to my interest	-.203*	-.056	.597*	.518*	.415*	.547*	.449*	.583*	.510*	.516*	1.000		
x_9 Important to me - Unimportant to me	-.262*	-.078	.632*	.486*	.518*	.616*	.484*	.521*	.630*	.524*	.795*	1.000	
x_{10} Credible - not credible	-.146*	-.096	.584*	.670*	.566*	.571*	.694*	.633*	.556*	507*	.586*	.608*	1.000
Mean	3.850	2.928	6.874	7.429	6.493	6.788	7.452	7.156	6.687	6.976	6.395	6.324	7.301
Standard Deviation	1.465	7.825	2.268	2.377	2.777	2.727	2.473	2.263	2.595	2.665	2.513	2.715	2.285

*$p < .05$
N=205

TABLE 3

Pearson correlations, means, and standard deviations for Topic

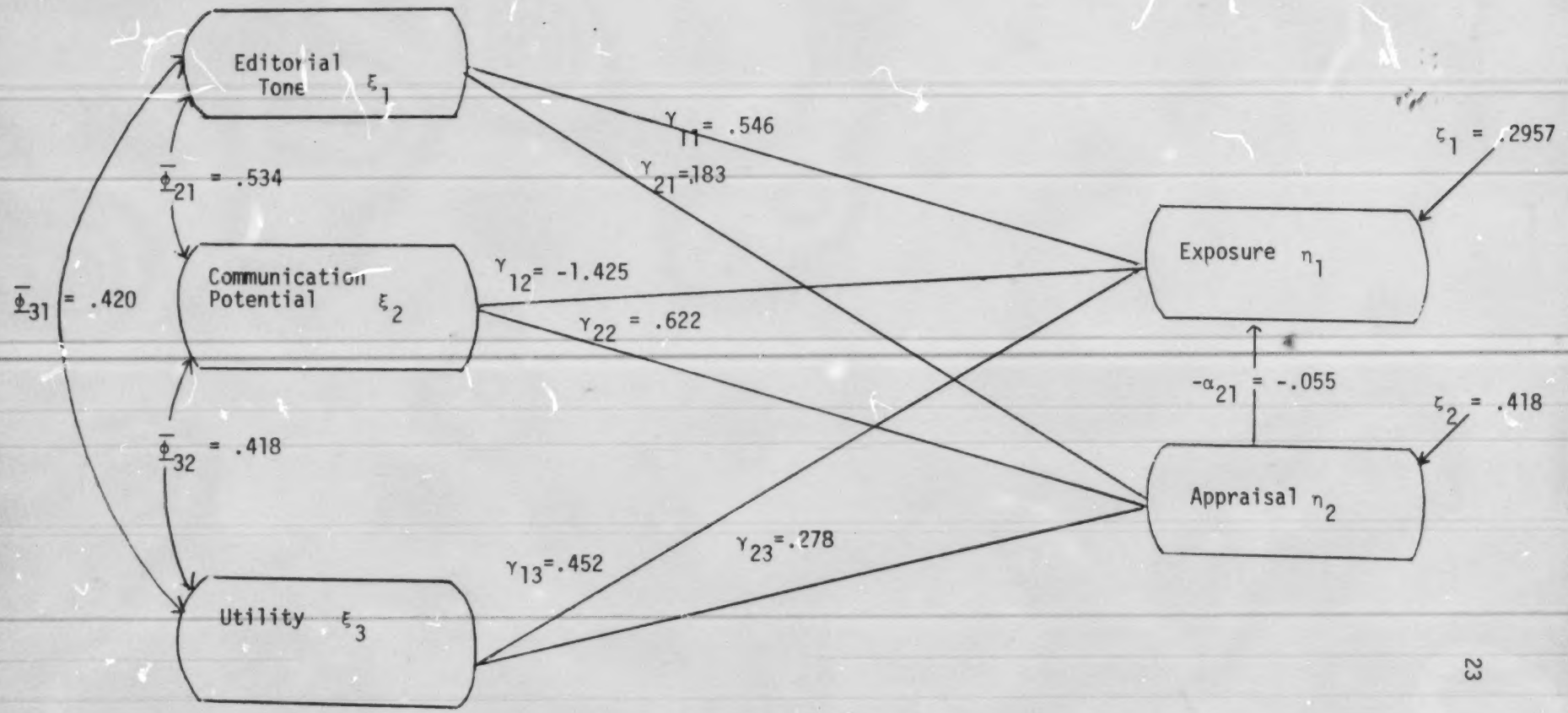
Observed indicant	y_1	y_2	y_3	x_1	x_2	x_3	x_4	x_5	x_6	x_7	x_8	x_9	x_{10}
y_1 Issue readership	1.000												
y_2 Article readership	.162*	1.000											
y_3 Best magazine of its kind-worst magazine of its kind	-.145*	.114*	1.000										
x_1 Accurate-inaccurate	-.029	.150*	.483*	1.000									
x_2 Impartial-prejudiced	-.256*	-.023	.333*	.488*	1.000								
x_3 Well-intentioned - questionable intentions	-.105	.058	.345*	.487*	.568*	1.000							
x_4 Authoritative - not authoritative	-.209*	.014	.394*	.529*	.447*	.400*	1.000						
x_5 Visually attractive - visually unattractive	-.016	.100	.363*	.431*	.302*	.353*	.312*	1.000					
x_6 Thought provoking-bland	-.065	.026	.353*	.406*	.373*	.484*	.367*	.418*	1.000				
x_7 Timely - old, dated	-.108	.101	.413*	.391*	.385*	.438*	.429*	.273*	.388*	1.000			
x_8 Relevant to my interests-irrelevant to my interests	-.085	.111	.445*	.488*	.507*	.529*	.397*	.515*	.513*	.423*	1.000		
x_9 Important to me - unimportant to me	-.119*	.104	.323*	.412*	.508*	.546*	.404*	.473*	.471*	.374*	.725*	1.000	
x_{10} Credible - not credible	-.127*	.108	.525*	.620*	.486*	.610*	.463*	.418*	.456*	.516*	.552*	.501*	1.000
Mean	3.747	4.145	6.969	7.198	6.462	6.818	7.149	7.490	6.743	6.888	6.509	6.439	7.216
Standard deviation	1.338	10.216	2.005	1.998	2.307	2.153	2.119	1.663	2.059	2.203	2.028	2.210	1.787

* $p < .05$

N= 196

FIGURE 1

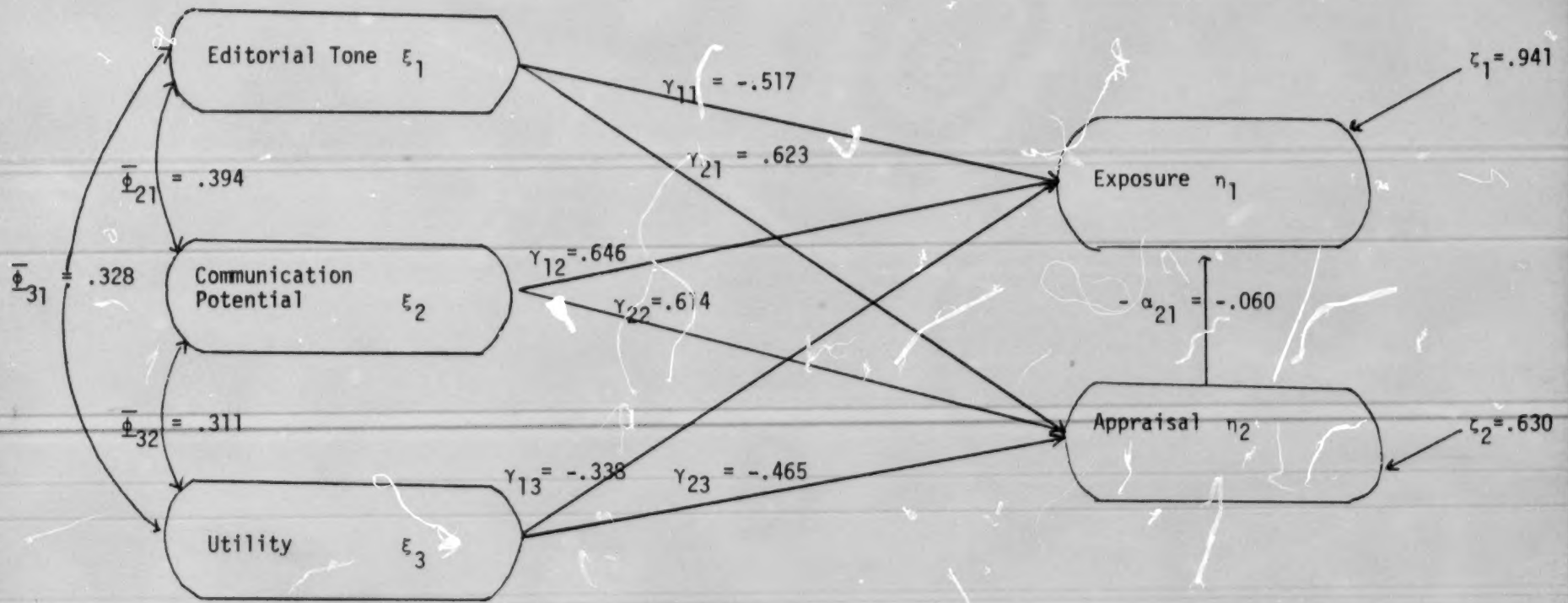
Results for Theoretical Model for Interlink[a]



a x^2 = 171.618; 56 d.f.; probability level = .001; ratio = 3.064

FIGURE 2

Results for Theoretical Model for Topic[a]



a χ^2 = 113.016, 56 d.f.; ratio = 2.018
N = 196